

CLAIMS

What is claimed is as follows:

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1 1. A method of marking a chip having surfaces comprising the following steps:
2 forming internal marking indicia on a marking location upon an
3 exterior surface of the chip for identification of the chip, and
4 forming a non-black, optically transmissive material over at least the
5 marking location on the one exterior surface of the chip.

6 2. The method of claim 1 wherein the non-black, optically transmissive material
7 comprises a non-black, transparent or semi-transparent material.

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8 3. The method of claim 1 wherein the non-black, optically transmissive material
9 is used for environmental protection and handling of the silicon devices.

10 4. The method of claim 2 including the steps of:
11 directing electromagnetic radiation upon the internal marking indicia
12 through the non-black optically transmissive material and
13 reading the internal marking indicia in response to images of the
14 internal marking indicia provided by reflections of the electromagnetic
15 radiation.

16 5. The method of claim 1 wherein the non-black, optically transmissive material
17 comprises a colored material.

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18 6. The method of claim 1 wherein the non-black, optically transmissive material
19 prevents remarking indicia or identification marks on the device.

1 7. The method of claim 1 wherein the non-black, optically transmissive material
2 prevents remarking silicon for a semiconductor package and the optically
3 transmissive material is a transparent material.

4 8. The method of claim 7 including the steps of:
5 directing electromagnetic radiation upon the internal marking indicia
6 through the non-black optically transmissive material, and
7 reading the internal marking indicia in response to images of the
8 internal marking indicia provided by reflections of the electromagnetic
9 radiation.

10 9. A method of marking an electronic integrated circuit chip having surfaces
11 comprising the following steps:

12 forming a semiconductor, integrated circuit chip having surfaces
13 including a planar front surface, a planar back surface and edges of the
14 chip between the planar surfaces with at least one electrical contact site on
15 on a surface,

16 forming internal marking indicia upon an exterior marking portion of a
17 surface of the chip for identification of the chip, and

18 forming a non-black layer covering the exterior surface of the chip at
19 least at the exterior marking portion thereof, the non-black layer being
20 composed, of a colored, optically transmissive material preventing remarking
21 the indicia on the exterior marking surface of the chip,

22 whereby the indicia are visible through the non-black layer.

1 10. The method of claim 9 including the steps of:

2 directing electromagnetic radiation upon the internal marking indicia
3 through the non-black optically transmissive material and
4 reading the internal marking indicia in response to images of the
5 internal marking indicia provided by reflections of the electromagnetic
6 radiation.

7 11. A method of marking a chip having surfaces comprising:

8 forming a non-black, colored material layer over at least an exterior
9 surface of the chip wherein the particular color indicates the identification
10 of the chip.

11 12. A method of marking a chip having surfaces comprising:

12 forming internal marking indicia on a marking location upon an exterior
13 surface of the chip, and
14 forming a non-black, optically transparent material colored with a
15 particular color over at least the marking location on that exterior surface of
16 the chip wherein the particular color together with the marking indicia
17 represents identification of the chip.

18 13. A chip comprising:

19 the chip having exterior surfaces,
20 internal marking indicia formed on a marking location upon an exterior
21 surface of the chip for identification of the chip, and
22 a non-black, optically transmissive material formed over at least the
23 marking location on the one exterior surface of the chip.

3 15. The device of claim 13 wherein the non-black, optically transmissive material
4 comprises a colored material.

7 17. The device of claim 13 wherein the non-black, optically transmissive material
8 prevents remarking silicon for a semiconductor package and the optically
9 transmissive material is a transparent material.

illumination means are provided for directing electromagnetic radiation upon the internal marking indicia through the non-black optically transmissive material and

17 19. The device of claim 13 wherein the non-black, optically transmissive material
18 is used for environmental protection and handling of the silicon devices.

1 20. The device of claim 14 wherein:

2 illumination means are provided for directing electromagnetic radiation
3 upon the internal marking indicia through the non-black optically
4 transmissive material and

5 reading means are provided for reading the internal marking indicia in
6 response to images of the internal marking indicia provided by reflections of
7 the electromagnetic radiation.

8 21. The device of claim 17 wherein:

9 illumination means are provided for directing electromagnetic radiation
10 upon the internal marking indicia through the non-black optically
11 transmissive material and

12 reading means are provided for reading the internal marking indicia in
13 response to images of the internal marking indicia provided by reflections of
14 the electromagnetic radiation.

15 22. An electronic integrated circuit chip comprising:

16 a semiconductor, integrated circuit chip having surfaces including a
17 planar front surface, a planar back surface and edges of the chip between
18 the planar surfaces with at least one electrical contact site on a surface,
19 indicia marked upon an exterior marking portion of a surface of the
20 chip for identification of the chip,

21 a non-black layer covering the exterior surface of the chip at least at
22 the exterior marking portion thereof, the non-black layer being composed,
23 of a colored, optically transmissive material preventing remarking the indicia
24 on the exterior marking surface of the chip, and
25 the indicia being visible through the non-black layer.

1 23. The device of claim 22 wherein:

2 illumination means are provided for directing electromagnetic radiation
3 upon the internal marking indicia through the non-black optically
4 transmissive material and

5 reading means are provided for reading the internal marking indicia in
6 response to images of the internal marking indicia provided by reflections of
7 the electromagnetic radiation.

8 24. A chip with a non-black, colored material layer over at least an exterior
9 surface of the chip wherein the particular color indicates the identification
10 of the chip.

11 25. A chip comprising:

12 internal marking indicia formed on a marking location upon an exterior
13 surface of the chip, and

14 a non-black, optically transparent material colored with a particular
15 color formed over at least the marking location on that exterior surface of
16 the chip wherein the particular color together with the marking indicia
17 represents identification of the chip.

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